REMARKS

Applicants thank the Examiner for his report and, especially, for allowing claims 6-9, 12, 13 and 16-18. Reconsideration and allowance of claims 1-5, 10, 11 and 15 is respectfully requested in view of the following remarks. Claims 1-18 are currently pending in the application.

Claim rejections – 35 U.S.C § 102(e)

Claims 1-5, 10, 11, 14 and 15 are rejected under 35 U.S.C. 102(e) as being allegedly anticipated by U.S. Patent No. 6,732,177 to Roy (referred to as Roy)

The Applicants shall demonstrate that the teachings of Roy (e.g., RRQ and BuRQ; RCF and BuCF) do not anticipate the invention as claimed. Roy does not either renders obvious the invention as claimed (that with or without common general knowledge and teachings from located prior art not relied upon).

In H.323, all traffic sent to an IP address of a mobile node is addressed and, thus, first sent to the home network (towards a home address) where it is further sent to a current care-of address. This is also the model used in MIPv4. In comparison, in later standards (e.g., MIPv6), the traffic is addressed and sent to a care-of address directly from correspondent nodes thereby bypassing potentially expensive diversion via the home network before reaching the mobile node. This difference brings a new challenge of making sure that correspondent nodes (e.g., further mobile node, fixed computer, data server) use the latest care-of address. This challenge is completely absent from H.323 or MIPv4 as informing the home network, solely, ensures that all traffic will be appropriately sent to the new care-of address. In later standards, the correspondent nodes unavoidably need to receive binding updates concerning the mobile node's new care-of address. That means the, in later standards, the mobile node would need to generate and send an individual binding update to i) its home network (home agent) and ii) all correspondent nodes currently in communication with the mobile node. However, generating multiple correspondent nodes'

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binding updates can be a burden, e.g., for resource limited mobile nodes. The present invention offers a relief to the mobile nodes by enabling Aggregated Binding Updates (ABU).

Claim 1

Claim 1 is a method claim for building a plurality of individual binding updates in a home agent on behalf of a mobile node. The home agent is located in an Internet Protocol (IP) network. The home agent receives an Aggregated Binding Update (ABU) from the mobile node. The home agent then builds the plurality of individual binding updates from the ABU. It should be noted that each of the plurality of individual binding updates has a different destination address **specified in the ABU**. The home agent further sends each of the plurality of individual binding updates toward each of the different destination addresses. <emphasis added>

The main emphasized aspects to be noted are that i) the ABU is received at the Home agent from the mobile node, which ABU ii) enables building of individual Binding Updates at the home agent and iii) contains addresses of individual binding updates' destinations.

In Roy, a roaming terminal entering a zone under responsibility of a foreign gatekeeper generates a Registration Request (RRQ) message indicating that it changed its care-of address (see col. 20, lines 20 to 34). The RRQ envisioned by Roy is described in detail on col. 20, line 55 to col. 22 line 62. It is therein mentioned that the RRQ is used to request generation of ONE Binding Update Request (BuRQ) message from the foreign gatekeeper to the home gatekeeper. As mentioned earlier, there is no need for more than one binding update as no other node than the home gatekeeper has a need for the new care-of address.

In comparison, the present invention clearly indicates that the home agent (associated by the Examiner to the home gatekeeper) receives an Aggregated Binding

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Update (ABU) from the mobile node. Roy does not teach the ABU. Consequently, Roy does not encompass receiving an ABU from the mobile node.

ONE BuRQ message of Roy is generated from the RRQ at the foreign gatekeeper, which sends it towards the home gatekeeper. The BuRQ may pass through various intermediate nodes, but is intended for the home gatekeeper. The BuRQ envisioned by Roy is described in detail on col. 24, line 66 to col. 27 line 11. It is therein mentioned that the BuRQ is used between gatekeeper (col. 25, lines 3-4) and aims at basically replacing the old care-of address with a new care-of address.

As such, the BuRQ message of Roy teaches away from the Aggregated Binding Update (ABU), which is received at the home agent from the mobile node for multiple destinations, which addresses are included in the ABU.

The home gatekeeper, in Roy, is the final intended target, and sole expected user, of the BuRQ. Thus, in Roy, the home gatekeeper receiving the BuRQ does not further build and send individual binding updates as the present invention claims. Roy, accordingly, fails to teach sending, from the home agent, a plurality of individual binding updates each with a destination address specified in the ABU.

It should also be added that Roy do not present any hint, motivation or directive to redefine its teachings towards the invention as claimed. A first reason for this is the irrelevancy of the invention as claimed in the context of H.323 (no aggregation valuable as in later standards given that one update is solely needed in H.323, MIPv4) and a second reason is the absence of consideration, notwithstanding the H.323 or MIPv4 limitation, for aggregation of messages (proxy or 'on-behalf' realisation is not addressed by Roy). As such, the Applicant submits that the invention as claimed present both novelty and non-obviousness in view of Roy

In consideration of the above, Applicants respectfully request withdrawal of the rejection of claim 1. As patentability of claims 2-5 ultimately depends on claim 1, confirmation of patentability of claim 1-5 is hereby respectfully requested.

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Claim 10

Claim 10 is a method for aggregating binding acknowledgments in a home agent for a mobile node. The home agent is located in an Internet Protocol (IP) network. The home agent intercepts a plurality of binding acknowledgments destined to the mobile node. From those, the home agent builds an Aggregated Binding Acknowledgment (ABA) and sends the ABA toward the mobile node.

Roy specifies a binding update confirm (BuCF) message (col. 24, line 66 to col. 25 line 11) and a registration conform message (RCF) (col. 20, lines 11-19, col. 22, line 63 to col. 24 line 33), both in the context of H.323. The first is meant to be generated by the home gatekeeper for the foreign gatekeeper to positively acknowledge a previous BuRQ while the second is generated by the home gatekeeper and addressed to the mobile node to acknowledge a previous RRQ.

Clearly, the confirmation messages (BuCF or RCF) in Roy are generated at the gatekeeper, but are not based on a plurality of intercepted acknowledgement messages destined to the mobile node. As explicated earlier, the later standards do not have a reason to have binding acknowledgment received from other sources than the home network/agent/gatekeeper. Roy, accordingly, fails to teach a home agent that intercepts a plurality of binding acknowledgments destined to the mobile node. Furthermore, Roy does not teach either the home agent building an Aggregated Binding Acknowledgment (ABA) from the intercepted binding acknowledgements and sending the ABA toward the mobile node.

In consideration of the above, Applicants respectfully request withdrawal of the rejection of claim 10. As patentability of claims 11 and 12 ultimately depends on claim 10, confirmation of patentability of claim 10-12 is hereby respectfully requested.

Claim 14

Claim 14 is a home agent in an Internet Protocol (IP) network comprising a binding management module. The binding management module builds a plurality of individual binding updates from an Aggregated Binding Update (ABU). The ABU is received from a mobile node and each of the plurality of binding updates has a different destination address specified in the ABU. The binding management module further builds an Aggregated Binding Acknowledgment (ABA) from a plurality of binding acknowledgments intercepted from the destinations specified in the ABU.

Applicants submit that the limitations of claim 14 have considerably been discussed hereinabove. Consequently, main reasons advanced to establish patentability of independent claims 1 and 10 are applicable to claims 14. Should the Examiner disagree, invitation is hereby made to contact the agent of record for further discussion.

In consideration of the above, Applicants respectfully request withdrawal of the rejection of claim 14. As patentability of claims 15 ultimately depends on claim 14, confirmation of patentability of claim 14 and 15 is hereby respectfully requested.
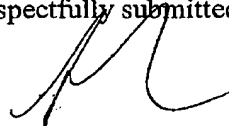
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CONCLUSION

In view of the foregoing, Applicants submit that the application is now in condition for favourable action. Therefore, Applicants respectfully request confirmation of patentability of claim 1-18.

Should the Examiner wish to discuss the present amendment or present patent application, he is invited to contact the undersigned at (514) 345-7955.

Respectfully submitted,

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